**OpenFEP™** is a modularized Communications Front-End Processor subsystem, that handles all communications with Remote Terminal Units (RTU) and Intelligent Electronic Devices (IED), using a number of open standard protocols as well as legacy protocols.

In contrast to propriety hardware interfaces used by the industry, **OpenFEP** uses only open communication hardware interfaces, including standard serial communication interfaces available from a number of manufacturers, such as Cisco Systems®, Digi®, RuggedCom® and Lantronix®. The **OpenFEP** communication server, using standard third-party hardware, encapsulates the data in TCP/IP packets and provides the interface to modems, radios and other communication technologies.

The fact that **OpenFEP** uses an IP interface allows the FEP hardware to be geographically decoupled from the Master Station and located within substations or other centrally or logistically located communication sites; thus reducing costs due to dedicated lease lines while introducing reliability. RTUs or IEDs that support TCP/IP can communicate directly with the FEP server eliminating the need for the communication server hardware interface. This allows for a complete network-based data acquisition system.

The **OpenFEP** software and SCADA Server software can reside together on the same hardware, or can be distributed among multiple computers. This provides a great deal of flexibility to scale the data acquisition subsystem hardware configuration for different RTU communication requirements. **OpenFEP** runs on a number of operating systems including Unix, Linux® and Microsoft® Windows®.

**OpenFEP** supports a number of legacy bit synchronous protocols as well as the newer byte-oriented protocols. The supported protocol library includes: DNP 3.0, IEC 60870-5-101, IEC 60870-5-104, Telegry 8979, Modbus, Conitel 2020, Conitel 300, Harris 5000/6000, SC1801, Tejas/Metso Series V, REDAC 70H, CDC Type I and II, and Moore BOP. For a complete list of the latest supported protocols please contact OSI.

Additional RTU protocols are implemented very efficiently as required for specific projects due to the structure of the **OpenFEP** product. Protocols are developed using a FEP API that provides a standard interface to the transport mechanism of the communication processor.
OpenFEP supports redundant channels with automatic fail-over capability as well as redundant FEP nodes to support expansion in communications capacity. Party-lined RTUs and IEDs are supported on a channel basis. Each channel can be assigned a unique protocol. A number of protocol and communication diagnostics tools and displays are provided to allow configuration and debugging of problematic channels.

OpenFEP also supports a “Monitor” or “Listen” mode of operation for a number of RTU protocols. In this mode, OpenFEP can receive and process scanned data polled by another master station. This capability facilitates cut-over activities during system commissioning and data validation of all substation data.